

Unconstrained estimates of phase angles and the concentration parameters

Since the time course data are potentially subject to outliers and influential observation, we fitted the RPM model (Liu et al. (2004)) under the L_1 to obtain the unconstrained estimators of the phase angles of the 11 genes in the 20 experiments. We also estimated the values of the concentration parameter κ for the 20 experiments using the procedure developed in Fernández et al. (2012). Results are summarized in Tables A and B.

Table A: Unconstrained estimates of phase angles obtained using the Random Periods Model.

Species	Experiment	<i>ace2</i>	<i>cdc18</i>	<i>mik1</i>	<i>hhf1</i>	<i>hta2</i>	<i>fkh2</i>	<i>klp5</i>	<i>cig2</i>	<i>plo1</i>	<i>slp1</i>	<i>rad21</i>
<i>S. pombe</i>	1- Oliva et al., 2005 cdc	5.69	0.00	5.77	0.68	1.12	6.21	1.25	5.86	0.75	5.46	5.44
<i>S. pombe</i>	2- Oliva et al., 2005 elut1	1.93	1.81	1.82	4.10	4.10	0.84	1.42	1.95	3.33	1.04	1.69
<i>S. pombe</i>	3- Oliva et al., 2005 elut2	4.86	5.32	6.20	1.06	1.02	3.60	5.01	5.64	5.09	4.23	3.85
<i>S. pombe</i>	4- Peng et al., 2005 cdc	1.59	2.23	1.78	4.92	5.09	3.51	3.09	4.25	0.63	1.96	2.95
<i>S. pombe</i>	5- Peng et al., 2005 elut	4.33	4.71	5.32	5.06	5.27	4.17	4.11	5.12	3.35	4.25	5.03
<i>S. pombe</i>	6- Rustici et al., 2004 cdc1	6.04	0.13	0.51	3.18	3.15	6.14	1.78	0.02	0.67	1.35	0.57
<i>S. pombe</i>	7- Rustici et al., 2004 cdc2	6.27	0.04	0.12	3.84	3.70	2.56	3.34	4.94	1.01	1.98	1.68
<i>S. pombe</i>	8- Rustici et al., 2004 elut1	1.56	2.28	2.51	2.82	2.85	1.95	1.80	1.97	1.19	1.83	2.26
<i>S. pombe</i>	9- Rustici et al., 2004 elut2	1.83	1.61	0.86	2.99	2.80	1.48	2.38	1.60	1.01	1.75	3.20
<i>S. pombe</i>	10- Rustici et al., 2004 elut3	3.25	2.91	4.06	3.47	3.47	3.14	3.71	2.52	2.88	2.34	3.55
<i>S. cerevisiae</i>	1- Cho et al. 1998	3.91	3.50	2.57	3.30	3.44	3.03	3.50	3.90	4.30	4.40	1.99
<i>S. cerevisiae</i>	2- De Lichtenberg et al., 2005	4.90	4.00	2.15	1.25	2.09	3.66	4.00	4.49	4.94	5.34	2.93
<i>S. cerevisiae</i>	3- Pramila et al., 2006 30	3.03	1.07	3.03	3.28	3.32	3.98	3.79	3.21	4.83	5.58	2.58
<i>S. cerevisiae</i>	4- Pramila et al., 2006 38	3.65	1.88	2.89	3.51	3.79	4.08	4.28	3.21	4.62	5.52	2.56
<i>S. cerevisiae</i>	5- Spellman et al., 1998 alpha	3.05	2.49	2.73	3.34	3.64	3.74	3.99	3.09	4.46	5.86	2.98
<i>S. cerevisiae</i>	6- Spellman et al., 1998 cdc	5.48	0.84	2.69	3.54	3.87	4.49	4.21	5.41	5.55	6.06	2.51
Humans	1- Whitfield et al., 2002 Thynoc	2.78	1.96	2.50	3.28	4.05	0.36	0.78	6.04	0.69	5.12	0.83
Humans	2- Whitfield et al., 2002 Thy1	4.62	3.41	3.44	3.49	3.54	1.47	1.11	5.35	0.16	5.82	0.43
Humans	3- Whitfield et al., 2002 Thy2	4.43	4.25	4.85	4.94	5.03	1.40	1.18	0.16	0.12	6.13	0.24
Humans	4- Whitfield et al., 2002 Thy3	3.11	3.60	4.47	4.21	5.13	0.34	0.48	0.11	0.41	5.88	1.46

Table B: Values of concentration parameter (κ) according to experiments

Species	Experiment									
	1	2	3	4	5	6	7	8	9	10
<i>S. pombe</i>	1.63	1.54	1.61	1.08	9.08	1.40	0.14	26.86	2.52	3.46
<i>S. cerevisiae</i>	1.80	0.84	10.47	26.64	8.80	1.79				
Human	1.72	2.34	26.78	2.46						

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